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BOOK REVIEW

T. Randolph Beard, David L. Kaserman, and Rigmar Osterkamp, The global organ shortage: economic causes, human consequences, policy responses

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This book, written in memory of David L. Kaserman (1947–2008) of Auburn University, who himself suffered from congenital kidney disease, addresses a challenge that confronts few people but in a deadly way. In the United States alone, more than 10,000 persons die annually because of a shortage of organs for transplantation (Ch. 1). Kidney transplantation in particular results not ony in a far better quality of life, but is also very cost-effective, at an estimated $16,000 per quality-adjusted life year, which is far below the £30,000 threshold adopted by the UK National Health Service (Ch. 4). Yet some 93,000 U.S. kidney patients (as of 2012) wait for a median of 1,833 days (as of 2003) for a transplant. Other countries are not much better. For example, in Eurotransplant, comprising Austria, Belgium, Germany, the Netherlands, Solvenia, and Croatia, the modal waiting time is between 2 and 4 years; almost 30 % of patients (as of 2009) have been on the waiting list for 5 years or longer. And in the case of Scandinaviatransplant, comprising Denmark, Finland, Norway, and Sweden, there were (as of 2009) 1,558 patients, while 89 had died waiting (Ch. 3). With incomes and health aspirations rising fast in the rest of the world, the global organ shortage will become ever more acute.

The crucial insight of the authors is that this sad state of affairs is not the result of market failure, but rather of government failure. Current policy is largely inspired by the U.S. National Organ Transplant Act of 1984 that served as the model for an "altruistic consensus" supported by the World Health Organization (WHO) and in particular the World Medical Organization (WMO). This consensus views financial compensation for organs to be unethical and illegal. At the same time, Becker and Elias (2008) estimate the world equilibrium price of a kidney provided by a living donor at $15,000. For an economist, three predictions emerge: (1) At a zero price, not much supply is forthcoming; with demand increasing, there will be a growing global organ shortage, (2) There will be an (largely illegal) international trade in organs because the reservation price of donors is much lower in poorer countries than in rich ones, (3) Due to the disjoint between supply

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and demand, significant profits will be made by those who are in a position to allocate organs to competing demanders, regardless of whether they do this legally or illegally.

The book discusses prediction (1) in great depth, dealing also with the claim of market failure advanced by Titmuss (1970) in the context of donated blood. He argues that a zero price calls forth better quality, while a positive price attracts less desired donations. The authors not only cite more recent research contradicting Titmuss, but show that less desired donations can nowadays be easily avoided thanks to improved quality control (Ch. 5).

Much evidence is also provided with regard to prediction (2). The authors provide estimates indicating that 150 million individuals worldwide had wealth amounting to $250,000 or more by 2000; with 0.1 % of them suffering from kidney failure, there were 150,000 patients already waiting for transplants (a figure that likely doubled in the meantime), whose demands are met by some 30,000 legal transplants per year in OECD countries. Currently, much of the supply comes from 12 poor countries ranging from Albania to South Africa. Also included in this group are Brazil, China, India, and Turkey, where domestic demand is likely to grow quickly in the near future (Ch. 3). Therefore, while arguments in favor of market failure with regard to organ donations are shown to have lost relevance (if they ever had any), the evidence points to a government failure that will become ever acute as time goes on.

Concerning prediction (3), the authors note that the all-inclusive cost of an illegal organ transplant performed in India is estimated at $35,000, of which the seller of the organ gets $1,000–$2,000. In the United States, in contrast, the cost of an illegal transplant ranges between $250,000 and $500,000, with ~$100,000 going to the seller (Ch. 3). Therefore, the profits to be made through illegal transactions are substantial (possibly enough to also attract the Mafia). But then, what about the legal organ transplants, whose total cost is estimated at $210,000, with the procurement of the organ itself costing a mere $55,000 (Ch. 5)? Diplomatic as they are, the authors abstain from using the p-word ("profit") but do, in passing, mention the incomes of surgeons and nurses.

However, more detailed information is readily available online. While Medscape (2012) reports an average annual income of $158,000 for U.S. family physicians, annual incomes for general surgeons are $265,000. The website Salary.com (2013) lists the income of surgeons specialising in heart transplants at $348,000 annually, which falls in the lower 25th percentile of the distribution for all surgeons (data for specialists in kidney transplants are not available). These figures give rise to the suspicion that the "altruistic consensus" amounts to a barrier to entry benefiting those who are in a position to allocate organs.

From a public choice perspective, these facts go a long way in explaining why governments worldwide prefer to maintain the current "altruistic consensus" system rather than considering a market solution. Governments do not dare break up a global cartel of transplant surgeons supported by allied specialized personnel that benefits greatly from exercising the right to allocate organs for transplantation. Any politician proposing to permit the creation of a domestic, let alone international, market for organs would face opposition from this vocal, powerful, and well-organized interest group. With the WHO and the WMO on their side, these professionals could easily launch a campaign decrying the monetization of health and health care. By way of contrast, support for a market solution is likely to be weak for at least four reasons. First, potential beneficiaries are few, and they are dying off due to existing shortages. Second, they face considerable cost of organization since the waiting lists are not public. Third, those who are rich enough to obtain an organ through the black market have a weaker interest in the issue. Fourth, as discussed above, donors who could benefit from a legal market for organs are mostly poor and live in poor countries meaning that they have little voice.

The authors of the book do not propose that the global cartel should be broken. Rather, they discuss eight modifications to the present allocation system, ranging from limiting the rights of the bereaved (whose wishes take priority in allowing post-mortem donations) to stepping up interventions against obesity (which is a main cause of kidney failure). They make it clear that the seemingly innocuous 'presumed consent' solution amounts to an abrogation of individuals' property rights with regard to their own person. Also, the "club solution" (giving priority to members who agree to donate their organs after they die) is found to have its problems: What about a member who leaves the club but wants to join it again later in life? Likely, he or she is now a "high risk", causing the club to increasingly become a high-risk pool with many claimants but few donors (Ch. 7). Conversely, the arguments against markets for organs are taken very seriously by the authors but they ultimately conclude that they are flawed. For example, the popular argument that a poor Indian farmer who sells his kidney to pay back a debt is forced into an involuntary transaction overlooks the fact that the alternative is usually bonded labor for many years—a far more unvoluntary transaction.

The authors also shy away from proposing a regulated market solution, which could consist in competing, publicly licensed organ procurement agents. Rather, they opt for a public monopsony (a U.S. "Organ Procurement Agency" or "OPA"), with the mission to maximize the net social benefit of transplants. They build an interesting model distinguishing between deceased-donor and living-donor kidneys (which are higher quality from a medical point of view) and generate comparative-static predictions. For instance, if it were possible to motivate more living donors to provide a kidney for free, the quantity of living-donor kidneys would increase but that of cadaveric kidneys would decrease, while the price of both types of kidneys would be predicted to drop. To make financial compensation more morally acceptable, "price" can also mean "free lifetime health insurance coverage", which should be valuable especially to living donors who incur a certain health risk (Ch. 8).

At least for this reviewer, it is regrettable that the authors abstain from providing a full-blown market model incorporating (regulated) international trade in organs (recall the price differences cited above). This would provide a means to gauge the efficiency loss incurred by having national OPAs that likely will not permit international organ exchange. This would be an effort worthy of public choice specialists. Also, the authors do not discuss safeguards protecting living donors against surgeons' incentives to let them die in order to get a hold of their organs (e.g. by easing the burden of proof in medical liability). Finally, donations by deceased persons could be encouraged by giving donors the right to define "death" according to their religious beliefs rather than having them accept the "brain death" definition imposed by the medical profession. The strength of this change would ultimately depend on the religious and cultural beliefs of a society. Overall, this book constitutes a courageous and well-researched attempt at coming to grips with a major problem in the current organization of health care that is becoming more critical and global by the day.

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